

and tail (in large samples of each species, wing and tail of the female are 95% of those of the male); juveniles are similar to adults, but are more diluted in colour and the streaking (if any) is more restricted and less distinctly defined. In *Kozlowia* and *Carpodacus*, sexual dimorphism is marked in colour, less so in size (though variable, wing and tail of the female are 94–98% of those of male in the larger species examined), and the juvenile of *Carpodacus* is closely similar to the adult female and thus distinctly streaked (the juvenile of *Kozlowia* is apparently not known). The adult female of *L. sillemi* is as yet unknown, but the fact that the juvenile of this species is far more heavily streaked than the adult male, unlike other *Leucosticte*, may indicate that the female is streaked too, and thus not similar to the adult male. If this assumption is valid, then *L. sillemi* perhaps is better included in *Kozlowia*, showing the same adaptations to high-mountain life, with very long wing and short tail and leg. The plumage of juvenile *L. sillemi* is closely similar to female *Kozlowia* and some of the larger *Carpodacus* such as *C. rubicilloides*, but differs in extensive white fringes to the tail-feathers, and the juvenile may also differ in measurements when full-grown. As the position of *Kozlowia* is not definitely established and the female of *L. sillemi* is not known, *sillemi* is here kept in *Leucosticte*.

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A new subspecies of *Aramides cajanea* from Brazil

by Douglas F. Stotz

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The nominate subspecies of the Grey-necked Wood-Rail *Aramides cajanea* is found from southern Costa Rica to northern Argentina. Among specimens from within this vast area, there is variation in such features as tone and extent of brown on nape, intensity of rufous underparts, and

tone of the olive back. Based on these characters, several taxa have been named. This variation, however, appears to be poorly correlated with geography, and the various named taxa do not appear to be valid (Hellmayr 1929, Hellmayr & Conover 1942, Ripley 1977).

I have recently completed an analysis of a series of 124 specimens in the Museu de Zoologia da Universidade de São Paulo (MZUSP) from throughout Brazil. This series shows considerable variation in the intensity of the rufous underparts and in the tone of the olive back, which do not have a reliable geographic component. A series from the mangroves of the southern São Paulo coast, however, are consistently distinct from other specimens of *Aramides cajanea*. I propose to call this population:

***Aramides cajanea avicenniae* subsp. nov.**

Holotype. ♂, MZUSP 67212, Iguape, São Paulo, Brazil; collected 13 July 1969 by A. M. Olalla.

Diagnosis. Resembles *A. c. cajanea*, but the back Plumbeous (colour 78 [capitalized colour names and numbers from Smithe 1975]), and occiput with brown wash much reduced and greyer or absent. These characters are unique among the populations of *Aramides cajanea*.

Description of type. Crown grey, near Glaucous (colour 79). Nape and back Plumbeous, lower back with slight olive tone. Rump, upper tail coverts and tail black. Scapulars and innermost secondaries Olive-Green (colour 47) with a slight bluish tone, becoming Citrine (colour 51) on inner scapulars and on broad edges to wing coverts and secondaries; these otherwise, along with the primaries, dark Tawny (colour 38), tipped with Vandyke Brown (colour 221). Lores, auriculars, sides of face and throat Light Neutral Gray (colour 85) becoming Medium Neutral Gray (colour 84) on lower throat and uppermost breast. Chin white. Breast, upper abdomen, and upper flanks Cinnamon (colour 39), a little darker on upper breast just below grey. Remainder of underparts black. Tibial feathering Glaucous. Flattened wing 186 mm, tail 69.8 mm, culmen (from anterior edge of nostril) 28.5 mm, tarsus 68.7 mm.

Distribution. Known from mangroves of the São Paulo coast from Icapara south to Ilha do Cardoso. Probably extends south in mangroves to central Santa Catarina (see Discussion).

Etymology. For *Avicennia*, one of the two dominant genera (along with *Rhizophora*) in the mangrove forests of the southern Brazilian coast, which this bird inhabits.

Specimens examined (spelling and names of Brazilian localities follow Paynter & Traylor 1991; coordinates given for localities not included in that work):

Aramides c. cajanea. **PANAMA**.: Veragua 1♂. **BRAZIL**. **Alagoas**: Mangabeiras 2♂, 1♀; **Amazonas**: Eirúnepe 1♂, 2♀, Ilha Baruruá, boca do Ati-Paraná (2°30'S, 67°23' W) 1♂; Igarapé Anibá 1♀; Itacoatiara 1♀; Lago Baptista 4♂, 5♀; Lago de Canaçari 5♂; Lago Tapaiúna 1♂; Parintins 2♂; Rio Eirú, Santa Cruz 1♂; Silves 5♀; **Bahia**: Curupeba 1♂; Ilheus 4♂; Rio Gongogi 1♀; **Ceará**: Itapipoca 1♀; **Espírito Santo**: Ibiracu 2♂; Rio Doce 1♀; Rio São José 1♀; Vila Velha 1♀; **Goias**: no locality 1♂;

Maranhão: Boa Vista 1♂; **Mato Grosso:** Cuiabá 1♂; Fazenda Aricá-Mirim 1♀; **Mato Grosso do Sul:** Corumbá 1♂, 1♀; Coxim 1♂; Miranda 1♂; Salobra 2♂, 3♀; **Minas Gerais:** Maringui 1♂, 1♀; Pirapora 2♂ 1?; **Pará:** Belem 1♂, 1♀; Caxiricatuba 5♂, 4♀, 1?; Fordlândia 3♂, 1?; Igarapé Buiúçu 1♂; Jaquara (2°12' S, 54°24' W) 1♂; Piquiatuba 3♂, 1♀; Pataua 1♂, 1♀; Rio Xingu, above Altamira 1♂; Taperinha 1♂; **Paraíba:** Coremas 2♂; **Paraná:** Rio Paracal 1♂; **Roraima:** Baixo Rio Mucajaí 1♂; **São Paulo:** Barra do Rio Dourado 1♂, 1♀; Barretos 1♂; Itapura 1♂, 2♀; Itaverava 1♀; Porto Marcondes 1♂, 2♀.

Aramides c. cajanea x *avicenniae*. **BRAZIL. São Paulo:** Ilha dos Alcatrazes 1♂, 1♀; Ilha dos Buzios 3♂, 3♀; Ilha Vitoria 1♀; Ubatuba 1♀.

Aramides c. avicenniae. **BRAZIL. São Paulo:** Barra de Icapara 1♂, Cananéia 4♂, 1♀; Icapara 1♂, 1?; Iguape 1♂, 1♀; Ilha do Cardoso 1♀.

Discussion

A. c. avicenniae seems to be almost completely restricted to mangroves, where it is found alongside the smaller *Aramides mangle*. It occasionally occurs along streams through restinga (forest of low stature on white sands) on Ilha do Cardoso, São Paulo (pers. obs., P. Martuscelli pers. comm.), but seems absent from humid forest along the base of the Serra do Mar. Elsewhere in its range, *Aramides cajanea* regularly occurs in the undergrowth of humid forest well away from water, as well as along watercourses and in mangroves.

Specimens of *Aramides cajanea* from the northern São Paulo coast, and its offshore islands, are intermediate between *avicenniae* and nominate *cajanya* in the colour of the mantle and occiput. They are darker rufous below than *avicenniae*, resembling typical *cajanya* (see below). They presumably represent intergrades between *avicenniae* and *cajanya*. The species occurs in mangroves in this region (pers. obs.), but is not restricted to them. Specimens collected on Ilha dos Buzios, which lacks mangroves, were obtained in humid forest (H. Camargo pers. comm.).

The intermediate specimens resemble in back colour many of the specimens from the interior of southern Brazil, which have been placed in a separate subspecies, *chiricote*, by some authorities. Hellmayr (1929) dismissed *chiricote* as too variable for recognition. Examination of specimens from Mato Grosso do Sul and the interiors of São Paulo and Paraná leaves me in agreement with Hellmayr, although about half of the specimens are greyer than typical *cajanya*.

In addition to the differences mentioned in the diagnosis, *avicenniae* is consistently paler rufous on the underparts than is typical of nominate *cajanya*. However, of the 102 specimens of *cajanya* in MZUSP, thirteen, from eleven different localities throughout its Brazilian range, are as pale below as *avicenniae*. The palest of these, from Coremas, Paraíba, is paler than any *avicenniae*. These pale variants lead me not to use this character in the diagnosis of *avicenniae*.

Both Hellmayr (1929) and Bangs (1907) discount the value of occiput colour in South American birds in distinguishing subspecies. All specimens of *avicenniae*, however, show at most a slight brown tone to an essentially grey occiput, whereas all the *cajanya* that I have examined show a clear brown occiput that contrasts obviously with the grey of the

neck. Ripley (1977) describes the occiput of *A.c. cajanea* as blackish or brownish, so occasional variants that are not brown may exist, but I have not seen any.

Bangs (1907) discussed the features of two specimens, one from "St. Catharine's" (probably Santa Catarina), Brazil, in the U.S. National Museum and one from Rio de Boraxudo (now Rio de Borrachudo, Paraná) in the British Museum. A grey back and pale rufous underparts are mentioned for both specimens (Sharpe 1894, Bangs 1907), agreeing with *avicenniae*, but the colour of the occiput is not mentioned. Rio de Borrachudo is in the extensive mangrove forests of the northern Paraná coast that are contiguous with the mangrove regions of southern São Paulo. Mangroves occur south along the Santa Catarina coast (Alonso 1977), so it seems reasonable to believe that the St. Catharine's specimen came from the Santa Catarina coast. Together these specimens suggest that *avicenniae* extends south to the southern limit of mangroves in Santa Catarina.

The northern limit of *avicenniae* is also uncertain due to the lack of specimens between the mouth of the Rio Ribeira near Iguape and Ubatuba. However, the extensive mangroves that line the inland waterways, bays and river mouths from the mouth of the Rio Ribeira south unbroken for 150 km to Paranagua, in Paraná, disappear north of the Rio Ribeira. As far north as Peruibe, 60 km up the coast from the Rio Ribeira, significant patches of mangroves (with *A. cajanea* present; pers. obs.) exist where river mouths or sheltered bays provide the necessary conditions. North of Peruibe, though, 70 km of unbroken sand beach separate the mangroves of the southern São Paulo coast from the extensive mangroves around Santos. This seems likely to have been the barrier that isolated *avicenniae*, allowing its evolution, and now providing the northern limit to its distribution.

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